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PCT/EP97/02224

6 May 1997
K23760PCT Hs/Wg

Patent Claims

- 5 1. Method for producing fillable plastic tube bodies, which comprises the following steps:
- 10 a. Producing by means of an injection moulding method a tube body preform which has a shoulder region, open towards the interior of the tube body preform, and a closed end region;
- 15 b. Heating the said tube body preform;
- 20 c. Biaxially expanding the said tube body preform in order to bring the tube body to its final shape and size; and
- 25 d. Cutting open the closed end region of the tube body.
- 30 2. Method according to Claim 1, characterized in that the biaxial expansion is carried out in step c.) using compressed air, as a blowing method.
- 35 3. Method according to one of the preceding claims, characterized in that heating the tube body preform is performed in step b.) by means of infrared radiation or hot air.
4. Method according to one of the preceding claims, characterized in that it further comprises the step of printing the biaxially expanded tube body with the desired tube inscription.
5. Method according to one of the preceding claims, characterized in that it further comprises the following steps:
- Filling the biaxially expanded tube body with the desired contents via the open end region; and

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- Closing the open-end region by means of welding.

6. Method according to Claim 1, which comprises the following steps in step a):

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a. Filling at least two feeding containers (23a, b), it being the case, respectively, that a first thermoplastic material is filled into the first feeding container (23a) and a second thermoplastic material is filled into the second feeding container (23b);

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b. Plasticizing the first and second thermoplastic materials in the respective feeding containers;

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c. Pressing the first and second thermoplastic materials into an annular nozzle (10) having at least two concentrically arranged annular nozzle gaps (120, 220), the delivery rate being essentially the same in terms of direction and magnitude for the first and second materials, with the result that the homogeneity of the first and second materials is maintained after they leave the annular gaps (120, 220); and

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d. Pressing the plasticized materials into a mould cavity of an injection mould (30), with the result that after they have left the annular nozzle (10) the homogeneity existing between the individual plasticized materials is also maintained in the mould cavity, the said mould cavity corresponding to a tube preform.

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7. Method according to Claim 6, it being possible for the thermoplastic material which is injected through the outer annular gap (320) to be welded.

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8. Method according to Claim 6 or 7, the thermoplastic material which is injected through the

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inner annular gap (110) being compatible with the container fluid.

9. Method according to one of the preceding Claims 6-8, at least one further material layer, which has a diffusion-inhibiting effect on the container fluid, being arranged between the outer and inner layers.

10. Method according to one of the preceding claims 6-9, the thermoplastic material which is injected through the outer annular gap (320) consisting of polyethylene (PE), polyethylene glycol terephthalates or polyalkylene terephthalates (PET) or polypropylene (PP).

11. Method according to one of the preceding claims 6-10, the thermoplastic material which is injected through the inner annular gap (120) consisting of polyethylene (PE), polyethylene glycol terephthalates or polyalkylene terephthalates (PET) or polypropylene (PP).

12. Method according to one of the preceding claims 6-11, the at least one layer which can be arranged between the outer and inner layers, consisting of polyamide (PA) and/or (PE) and/or (PET) and/or (PP) and/or ethylenevinyl alcohol (EVOH) and/or PEN and/or PVDC and/or polyethylene glycol terephthalates.

13. Method according to one of the preceding claims 6-12, the tube preforms having an open end region and being cold-stretchable.

14. Tube body preform characterized in that it is produced using a method according to step a) of Claim 1.

15. Fillable tube body characterized in that it was produced using a method according to one of Claims 1-13.

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